JUN 07 2004

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:

Nigel Griffin, et al.

Serial No.: 1

10/604,210

Filed:

July 1, 2003

For:

High Volume Density Polycrystalline Diamond

With Working Surfaces Depleted of Catalyzing §

Material

Art Unit No.: 1775

Examiner:

Turner

Docket No.: 78.1081-1.4

June 7, 2004

Honorable Commissioner for Patents P.O. Box 1450 Alexandria, VA 22313-1450

Dear Sir:

CERTIFICATE OF MAILING 37 C.F.R. 1.10

I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, or sent via facsimile on the date indicated below.

6/7/04

Date

Signature

INFORMATION DISCLOSURE STATEMENT UNDER 37 C.F.R. §§ 1.97 and 1.98

In compliance with the duty of disclosure under 37 C.F.R. § 1.56, it is respectfully requested that this Information Disclosure Statement be entered and the references listed on the attached Form PTO/SB/08A be considered by the Examiner and made of record. This is a continuation of US Patent Application Serial No. 10/065,363, filed October 9, 2002, which is a divisional of US Patent Application Serial No. 09/682,419, filed August 30, 2001. Copies of the patents in this Information Disclosure Statement are included in the latter case file.

In accordance with 37 C.F.R. § 1.97(g), this Information Disclosure Statement is not to be construed as a representation that a search has been made or that no other possibly material information as defined 37 C.F.R. § 1.56(b) exists. Furthermore, pursuant to 37 C.F.R. § 1.97(h), the filing of this statement shall not be construed to be an admission that the information cited in the statement is, or is considered to be, material to patentability as defined in 37 C.F.R. § 1.56(b).

This Information Disclosure Statement is filed in accordance with 37 C.F.R. 1.97 (b). The Commissioner is hereby authorized to charge the \$180 fee under 37 CFR 1.17(p), and any additional fees that may be required at any time during the prosecution of this application without specific authorization, or credit any overpayment, to Deposit Account No. 180584. If there are any questions concerning the above, please contact the undersigned at (832) 681-8623.

Respectfully submitted,

Jeffery E. Daly

Reg. No. 44,640

Customer No. 26932

Grant Prideco, L.P. 1330 Post Oak Blvd., Suite 2700 Houston, TX 77056

Ph: 832.681.8623 Fax: 832.681.8699

e-mail: jeff.daly@grantprideco.com

78.1081-1.4

PTO/88/08A (08-00)

Approved for use through 10/31/2002, OMB 0851-0031

U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1895, no persons are required to respond to a collection of Information unless it contains a valid OMB control number. Please type a plus sign (+) Inside this box -> + Complete If Known \$ubstitute for form 1449A/PTO 10/604,210 **Application Number** INFORMATION DISCLOSURE 7/1/2003 Filing Date STATEMENT BY APPLICANT First Named Inventor Griffin et al Group Art Unit 1778 (use as many sheets as necessary) Examiner Name Tume/

Attorney Docket Number

6

of

Sheet

U.S. PATENT DOCUMENTS								
	Çite	U.S. Patent Documen		Date of Publication of	Pages, Columns, Lines. Where Relevant			
Examiner .eleltin	No.1	Number Kind Cod	of Cited Document	Cited Document MM-DD-YYYY	Passages or Relavant Figures Appear			
		3,136,615	Bovenkerk	06/09/1984 ,				
		3,141,746	DeLai	07/21/1964				
		3,233,988	Wentorf, Jr.	02/08/1966				
		4,108,614	Mitchell .	08/22/1978				
		4,151,688	Lee et al	05/01/1979				
		4,224,380	Bovenkerk et al	09/23/1980				
		4.255.165	Dennis et al	03/10/1981				
•		4,268,278	Bovenkerk	05/19/1981				
		4,303,442	Hara et al	12/01/1981	Mary .			
		4,311,490	Bovenkerk et al	01/19/1982				
		4.373.593	Phaal et al	02/15/1983	· · · · · · · · · · · · · · · · · · ·			
		4,387,287	Marazzi	06/07/1983	A			
		4.412.980	Tsuji et al	11/01/1983				
		4,481,016	Campbeli et al	11/06/1984	No.			
.,,		4,486.286	Lewin et al	12/04/1984				
		4,504,519	Zelez	03/12/1985				
	, , , , , ,	4.522.633	Dyer	06/11/1985				
		4,525,179	Glai	06/25/1985				
•		4,534,773	Phael et al	08/13/1985				
	ļ	4,556,403	Almond et al	12/03/1985	······			

FOREIGN PATENT DOCUMENTS								
	12.57	F	oreign Patent Do	cument	Name of Patentee or Applicant of Cited Document	Date of Publication of	Pages, Columns, Lines, Where Relevant	
Examiner nitiala	Cite No.	Office ³	Number ⁴	Kind Code ⁵ (// known)		Cited Document " (MM-DD-YYYY	Paesagea or Relovant Figures Appoer	<u> </u> 7
								╁
								+
							"	
							"•• ,	
								1
			· · · · · · · · · · · · · · · · · · ·					+
								+

Eurminer	Date
Examiner	Considered
Signature	OO/IO/IO/IO
	The same and the state of the same approximation of the same same same same same same same sam

Burdon Hour Statement: This form is estimated to take 2.0 hours to complete. Timo will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chiof Information Officer, U. S. Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.

^{*}EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹ Unique citation designation number. ²See attached Kinds of U.S. Patent Documents. ³ Enter Office that issued the document, by the two-letter code (WIPO Standard ST.S). ⁴ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. ⁶ Applicant is to place a check mark here if English language Translation is attached.

Please type a plus sign (+) Inside this box -> + Under the Paperwork Reduction Act of 1995, no persons are required to re	Approv U.S. Patent and Tradems appond to a collection of information	PTO/SE/08A (08-00) = ed for uso through 10/31/2002. OMB 0651-0031 erk Office: U.S. DEPARTMENT OF COMMERCE in Uniosa it contains a valid OMB control number.
Substitute for form 1449A/PTO	·	omplete if Known
	Application Number	10/604,210
INFORMATION DISCLOSURE	Filing Date	7/1/2003
STATEMENT BY APPLICANT	First Named Inventor	Griffin et al
	Group Art Unit	1775
(use es many sheets as necessary)	Examiner Name	Turner
Sheet 2 of 6	Attorney Docket Number	70 4004 4 4

				U.S. PATENT DOCU	JMENTS	
Examiner Initials	Cite No.1	U.S. Patent Number	Document Kind Gode ² (# known)	Name of Patentoo or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
	4	,560,014		Geczy	12/24/1985	
	4	4,570,728		Hall	02/18/1986	
	4	4,572,722		Dyer	02/25/1986	
	,	4,605,343		Hibbs Jr et al	08/12/1986	
	1	4.606,738		Hayden	08/19/1986	
	1	4,821,031		Scruggs	11/04/1986	· -
		4.636.253		Nakai et al	01/13/1987	
		4,645,977		Kurokawa et al	02/24/1987	
		4,662.348		Hall et al	05/05/1987	
		4.664.705		Horton et al	06/12/1987	
		4,670,025		Pipkin	06/02/1987	
	4	,707,384		Schechner et al	11/17/1987	
		4.725.718		Meskin et al	02/23/1988	
	·	4,766,040		Hillert et al	09/23/1988	
		4,776,861		Frushour	10/11/1988	
		4,792,001		Zijsling	12/20/1988	
		4,793,828		Burnand	12/27/1888	
		4,797,241		Peterson et al	01/10/1989	
		4,802,539		Hall et al	02/07/1989	· · · · · · · · · · · · · · · · · · ·
***		4.807.402		Rai	02/28/1989	

11-11	FOREIGN PATENT DOCUMENTS								
_		F	oreign Patent Do		Name of Patentee or Applicant of Cited Document	Date of Publication of	Pages, Columna, Unos, Where Relevant		
Examiner Initials	Cite No. ¹	Office ⁸	Number ⁴	Kind Code ^s (<i>V known</i>)		Cited Document MM-DD-YYYY	Passages or Relevant Floures Appagr	7'	
		<i>"</i>							
					,			1	
							· · · · · · · · · · · · · · · · · · ·	_	
								┿	
	·····								
		 	W, .			-		+	
		 -							
	- 								
		 							

Examiner	Date Considered	
Signature	 - Continued of	

+

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U. S. Patent and Tredemark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.

^{*}EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹ Unique citation designation number. ² See attached Kinds of U.S. Patent Documents. ³ Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴ For Japanese patent documents, the Indication of the year of the reign of the Emperor must precede the serial number of the patent document. ³ Kind of document by the appropriate symbols as Indicated on the document under WIPO Standard ST. 16 if possible. ⁶ Applicant is to place a check mark here if English language Translation is attached.

Icase type a plus sign (+) inside this box —> + Inder the Paperwork Reduction Act of 1995, no persons are required to re-	U.S. Patent and Tradems	PTO/SB/08A (08-00) , ed for use through 10/31/2002. OMB 0651-0031 rk Office: U.S. DEPARTMENT OF COMMERCE 1 unless it contains a valid OMB control number.	
Substitute for form 1449A/PTO	Complete if Known		
	Application Number	10/604,210	
INFORMATION DISCLOSURE	Filing Date	7/1/2003	
STATEMENT BY APPLICANT	First Named Inventor	Griffin et al	
	Group Art Unit	1775	
(use as many sheets as necessary)	Examiner Name	Tumer .	
Sheet 3 of 6	Attorney Docket Number	78.1081-1.4	

U.S. PATENT DOCUMENTS							
Examiner	Cite	U.S. Pateni		Name of Patentee or Applicant	Date of Publication of	Pages, Columns, Lines, Where Relevant	
nitials"	No.1	Number	Kind Code ^z (# kngwn)	of Cited Document	Cited Document MM-DD-YYYY	Passages or Relevant Eleures Appear	
		4,828,582		Frushour	05/09/1989		
		4,861,350		Phaal et al	08/29/1989		
		4,871,377		Frushour	10/03/1989		
		4.889.922		Slutz et al	02/13/1990		
		4,919,220		Fuller et al	04/24/1990		
		4,940,180	.15	Martell	07/10/1990		
	,	4,943,488		Sung et al	07/24/1990		
		4,944,772		Cho	07/31/1990		
		4,978.324		Tibbitts	12/11/1990	· · · · · · · · · · · · · · · · · · ·	
		5,027,912		Juergens	07/02/1991		
		5,030,278		Sung e al	07/09/1991		
		5.092,687		Hall	03/03/1992		
		5.116.568		Sung et al	05/26/1992		
		5,127,923	•	Bunting et al	07/07/1992		
		5,135,061		Newton Jr	08/04/1992		
		5,176,720		Martell et al	01/05/1993		
		5,186,725		Martell et al	02/16/1993		
		5,199,832		Meskin et al	04/06/1993		
	-,,,,	5,205,684		Meskin et al	04/27/1993	" AND THE RESERVE OF THE PERSON OF THE PERSO	
		5,213,248		Horton et al	05/25/1893	ii—e-ii	

				FORE	GN PATENT DOCUMENT	8		
	A 11.	Foreign Patent Document			Name of Patentee or .	Date of Publication of	Pages, Columns, Uniss, Where Relevant	
Examiner Initials	Cite No.1	Office ⁵	Number ⁴	Kind Godes (If known)	Applicant of Cited Document	Cited Document MM-DD-YYYY	Passages or Relevant Figures Appear	Ţ [®]
	,	l "						
			,		***************************************			_
								
								-
			· · · · · · · · · · · · · · · · · · ·					

Examiner Signature	Date Considered
Signature	

+

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U. S. Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.

^{*}EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 608. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹ Unique citation designation number. ² See attached Kinds of U.S. Patent Documents. ² Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴ For Japanese patent documents, the indication of the year of the raign of the Emperor must precade the serial number of the patent document. ⁵ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. ⁶ Applicant is to place a check mark here if English language Translation is attached.

PTC/\$B/08A (08-00)

Approved for use through 10/31/2002, OMB 0651-0031

U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449A/PTO

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(use as many sheets as necessary)

6 of Sheet

Complete If Known					
Application Number	10/604,210				
Filing Date	7/1/2003				
First Named Inventor	Griffin et al	<u>, , , , , , , , , , , , , , , , , , , </u>			
Group Art Unit	1775	•			
Examiner Name	Turner				
Attorney Docket Number	78.1081-1.4				

				u.\$, patent doci	JMENTS	
Examiner Initials	Cite No.1	U.S. Paten Number	Cocument Kind Code ² (if known)	Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passagas or Relevant Figuras Appasr
		5,238,074		Tibbitts	08/24/1993	
		5,264,283		Waldenstrom	11/23/1993	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
****		5,337,844		Tibbitts	08/18/1994	
		5,379,853		Lockwood	01/10/1985	
		5,439,492		Anthony et al	08/08/1995	
		5,464,068		Najefi-Sanl	11/07/1995	
		5,468,268		Tank et al	11/21/1995	
		5,498,638		Waldenstrom	03/05/1996	
		5,505,748		Tank et al	04/09/1998	
	•	5,510,193		Cerutti et al	04/23/1996	
		5,523,121		Anthony et al	06/04/1996	
		5.52 <u>4,719</u>		Dennis	06/11/1996	
		5.580.716		Tank et al	10/01/1996	***
		5,807,024		Kelth et al	03/04/1997	
		5,620,382		Cho et al	04/15/1997	
		5,624,068		Waldenstrom et al	04/29/1997	
		5,667,028		Truax et al	09/18/1997	
		5,718,948		Ederyd et al	02/17/1998	
		5,722,499		Nguyen et al	03/03/1998	
, j		5.776.615		Wong et al	07/07/1998	A STATE OF THE STA

				FORE	IGN PATENT DOCUMENT	<u> </u>		
	,		Foreign Patent Do	cument	Name of Patentee or	Date of Publication of	Peges, Columna, Lines, Where Relovent	
Examiner Initiala⁵	Cite No. ¹	Offices	Number ⁴	Kind Cade ^s (if known)	Applicant of Cited Document	Cited Document MM-DD-YYYY	Possages or Relevent Figures Appear	т⁵
		EP	0300699	A2	Smith International Inc.	01/25/1989		
		EP	0329954	B1	General Electric Company	08/18/1993		
		EP	0500253	B1	Sumitomo Electric	11/12/1997		
		EP	0595630	B1	CSIR	01/07/1998		
,	*	EP	0595631	B1	CSIR	04/09/1997		<u> </u>
,		FP	0612868	B1	Sumitomo Electric	07/22/1998		
-		EP	0617207	A3	DeBeers Industrial	09/28/1994	<u></u>	_
		EP	0787820	A2	Saint-Gobsin/Norton	08/06/1997		
		EP	0860515	A1	DeBeers industrial	08/26/1998		4
-		υĸ	2048927	Α	DeBeers Industriel	12/17/1980		

T. aminas I	Date	
Examiner	Considered	
Signature		

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the Individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U. S. Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.

^{*}EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹ Unique citation designation number. 2 See attached Kinds of U.S. Patent Documents. 2 Enter Office that Issued the document, by the two-letter code (WIPO Standard ST.3). 4 For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the social number of the patent document. "Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. B Applicant is to place a check mark here if English language Translation is attached.

PTO/SB/08A (08-00)

Approved for use through 10/31/2002. OMB 0851-0031

U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

Under the Pagerwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number. Please type a plus sign (+) inside this box -> + Complete if Known Substitute for form 1449A/PTO 10/504,210 **Application Number** INFORMATION DISCLOSURE Filing Date 7/1/2003 STATEMENT BY APPLICANT First Named Inventor Griffin et al **Group Art Unit** 1775 (use as many sheets as necessary) Examiner Name Turner 5 6 **Attorney Docket Number** Sheet of 78.1081-1.4

	Cite No.1	Ú.S. Pateni	Document	U.S. PATENT DOCL	Date of Publication of	Pages, Columns, Lines,
Examiner Initials'		Number	Kind Codes (If known)	Name of Patentee or Applicant of Cited Document	Çited Document MM-DD-YYYY	Where Relevant Passages or Relevant Figures Appear
		5,954,147		Overstreet	09/21/1999	
		5,979,578		Packer	11/09/1999	
		6,009,983		Cheves et al	01/04/2000	
	•	6,126,741		Jones et al	10/03/2000	
		6,248,447	B1	Griffin et al	06/19/2001	
	A I PAGE	6,269,894	В1	Griffin et al	08/07/2001	
		6.344.149		Oles	02/2002	
		6,063,333		Dennis	05/2002	
		5,897,942		Karner et al.	04/1999	
		5.833.021		Mensa-Wilmot et al.	11/1998	
		5.370.195		Kachevan et al	12/1994	
		5.011.514		Cho et al.	04/1991	
		6.123.612		Goers	09/2000	
		4,604.108		Hall et al.	08/ <u>1986</u>	
		6,259,894		Griffin	08/2002	
<u> </u>						
,						
						all the second s

				FORE	EIGN PATENT DOCUMENT	18		
			Foreign Patent Do	cument	Name of Patentee or	Date of Publication of	Pages, Columns, Lines, Where Relevant	
Examiner Initials	Cite Na. ¹	Office ³	Number ⁴	Kind Code ^c (# known)	Applicant of Cited Document	Cited Document MM-DD-YYYY	Passages or Relevant Figures Appear	علا
		UK	2268768	Α	Baker Hughes	01/19/1994	***************************************	
		UK	2323398	Α	Baker Hughes	09/23/1998		
		PC	WO98/34131	A1_	Tokyo Kohan Co Ltd	10/31/1998		
	,	υK	1349385		GE	04/1974		_
			······································) MARTINE THE STATE OF THE STAT	╀
	•	1					******	1
		+ +	· · · · · · · · · · · · · · · · · · ·			.:	****	
			······································					
1								

Examiner	Date	
Signature	Considered	
Olginatale	- Line -	

Unique citation designation number. See attached Kinds of U.S. Patent Documents. Senter Office that issued the document, by the two-letter code (WIPO Standard ST.3). For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. Applicant is to place a check mark here if English language Translation is effected.



Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will very depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U. S. Patent and Tredemark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.

^{*}EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

	lus sign (+) insld work Reduction			PTO/SB/08B (08-00) Approved for use through 10/31/2002. OMB 0651-0031 U. S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE [03pond to a collection of information unless it contains a valid OMB control number.			
<i>(</i>	ite for form 1448				emplete if Known		
 	00111-			Application Number	10/604,210		
INF	ORMAT	ION	ISCLOSURE	Filing Date	7/1/2003		
STA	TEMEN	IT BY	APPLICANT	First Named Inventor	Griffin et al.		
				Group Art Unit	1775		
	(use as m	any sheet	š ės necessary)	Examiner Name	Turner		
Sheet	8	of	6	Attorney Docket Number	78.1081-1.4		

Examiner	Cite	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the	
nitials"	No.1	item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-lesue number(s), publisher, city and/or country whom published.	T
		Translation of Japanese Unexamined Patent Application No. S59-219500, "Diamond Sintering and Processing Method," SHUJI YATSU and TETSUO NAKAI, inventors; Application published December 10, 1984; Applicant: Sumitomo Electric Industries Co. Ltd.	
		Application published December 10, 1984; Applicant: Sumitomo Electric Industries Co. Ltd.	
•			
		•	
,			
114.			
			İ
			"
		Date	
Examine Signatur		Considered .	

^{*}EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

⁴ Unique citation designation number. 2 Applicant la to place a oneck mark here if English language Translation is attached.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U. S. Patent and Tradamerk Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patenta, Weshington, DC 28231.